

FIGURE 1. MESA FINAL WATER BALANCE WITH HERO

16-Mar-01
Changed to Zero RO Reject Recovery (Q79=0)
Increased Recycle to 80 gpm to account for MicroFab East (Q79=90)

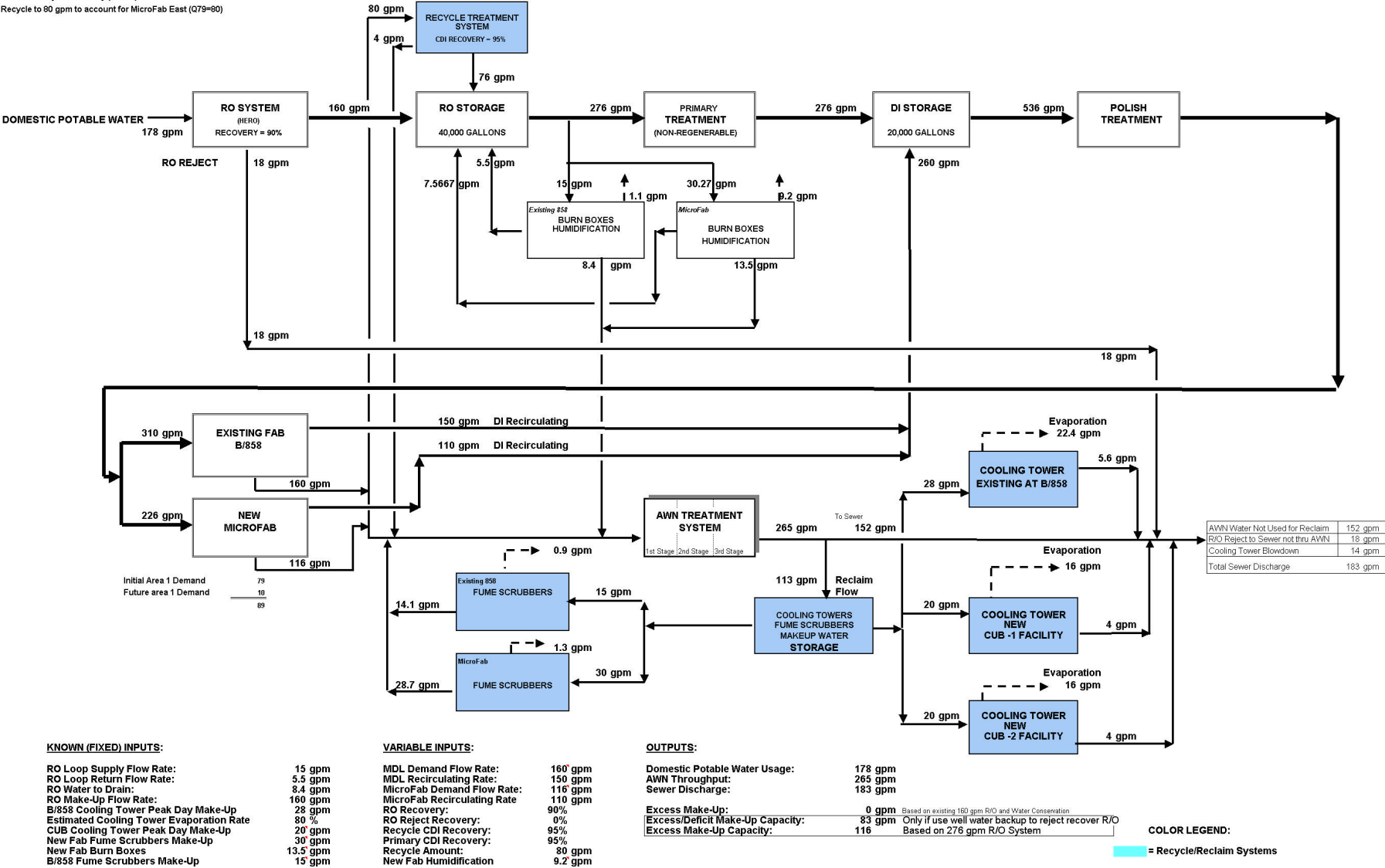


Table 1. Estimated Water Savings Before 2001

Description		Water Savings		% Reduction	
		Min. (MGals.)	Max. (MGals.)	Min	Max
MDL - Reverse Osmosis (1996)	More precise control valves, more efficient pump manifold, high-surface-area RO membranes, upgraded piping.	30	38	6.7%	7.9%
MDL - Process Changes (1998)	Separate, monitor and recycle rinse water. Recycle acid from process tank discharge.	2	2	0.4%	0.4%
MDL - Cooling Towers (1998)	Use process waste water for cooling tower feed.	25	30	5.6%	6.2%
Steam Plant Improvements (1996)	Steam and condensate line leak detection and repair. Replace dealkalyzer. Add caustic to brine for resin renewal. Recycle treated water for cooling fan bearings, feedwater pumps, and conductivity meter	15	25	3.3%	5.2%
Laser Cooling Loop at CSRL (Completed in 1998)	Replace once-through cooling system for CSRL lasers with closed-loop system.	5	15	1.1%	3.1%
TOTAL	Total Water Saved Million Gallons Per Year	77	110	17.2%	22.9%

FIGURE 2. SNL/NM ANNUAL WATER USE SCENARIOS FOR MESA

